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NEW SYSTEMS OF VOCATIONAL TRAINING AND OF APPRENTICESHIP

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NEW SYSTEMS OF VOCATIONAL TRAINING AND OF APPRENTICESHIP

by

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The system of vocational training of qualified workers

1. An integral part of the process of the large-scale reproduction is also the large-scale reproduction of the qualified labour force. In the socialist economic system, the rate of unfolding large-scale reproduction of the qualified labour force is determined by the plan of developing the national economy, in close correlation with the rate of the large-scale reproduction all over the national economy. This concordance is determined, in its turn, by the unitary character of the forces of production, by the mutual inter-conditioning between the reproduction of the means of production and the reproduction of the labour force.

2. In various stages of the unfolding of the process of socialist large-scale reproduction, depending on the concrete conditions, the system of training qualified labour force therefore of the qualified workers is also improved. When improving the system of training qualified workers in the years of socialist construction in the Rumanian People's Republic the following decisive elements have been taken into account: the urgency with which the economic development required the respective cadres of workers and the material basis of the education training qualified workers.

3. Taking into account the high rate in which the economy of our country has developed and is developing, which determins a continuous increase in the necessity of qualified workers, on the one hand, and on the other, the very weak material basis which the people's democratic regime inherited from the past regime, it is clear why the training of workers in enterprises by various forms of courses had a special importance in the post-war period.

4. Granting the deserved attention to the training of workers in enterprises by such courses, the material conditions for the extension and improvement of vocational education have been created and developed at the same time, with a view to training qualified workers, aiming at training, first of all through schools, all workers who are qualifying in complex trades and first of all those who are working in the main branches of industry of our country, such as for example in the machine-building industry, in the chemical, oil industries, in the industry for the superior processing of wood, etc.

5. Thus in the concrete conditions of the building of socialism in the Rumanian People's Republic, a system of training qualified workers has been created, which comprises various durations and various qualitative

stages. This system is sufficiently flexible to meet the varied requirements of development of the national economy. We think that the varied forms in which the flexibility of the system of training qualified workers is crystalized, meeting the requirements of our national economy, can be taken into account by those countries which are developing, which have similar problems. For this very reason we propose to synthetize the existing system in the Rumanian People's Republic, previously mentioning that this system is being further improved, taking into account the fact that the cultural and school instruction level of the working people in our country is raised by the achievement of general and compulsory 8-year education.

6. The entire system of training qualified workers in our country is characterized by the close link of the process of theoretical and practical training with the process of production in industrial and agricultural enterprises. The pupils of the schools training qualified workers, as well as people who are directly qualifying in production, acquire the practical knowledge on the basis of the curricula and syllabus, under the guidance of practice instructors, directly in production, thus coming into contact already during their training, with modern equipment and installations, which allow them to better form their practical skill, and master the new technique.

The organization of education for the vocational training of qualified workers

7. The education for the training of qualified workers, as well as the entire education in the Rumanian People's Republic, is scientifically realistic and placed on deeply democratic bases, being accessible to all citizens of our country, irrespective of sex, nationality, race of religion.

8. This education is carried out in schools with a permanent character and in enterprises, by courses with a varied duration or at the place of work, to the extent the requirements of cadres cannot be satisfied only with the school-leavers, as well as in case the already qualified workers in a subdivision of trade complete their training or are getting specialized in a certain domain.

9.a) There are three types of schools in the education for the training of qualified workers: vocational schools of apprentices, schools for learning various trades and technical schools for qualified workers.

b) In the vocational schools for apprentices are admitted the school-leavers of 7-year schools of general educaation, and in the future of 8-year schools, 14 - 16 years of age. For certain trades which require special physical and working conditions (the mining and drilling sector) the minimum age required the admitance is of 16 - 18 years. The schooling period is of 2 - 4 years depending on the content of the trade. The admitance to these schools is made on the basis of the results obtained at the entrance examination.

c) The schools for learning various trades have the same conditions of admitance and duration of training on trades like the vocational schools for apprentices. But they are different from the latter as regards the organization of practical training. At the schools for learning various trades are organized in localities with a less developed industry, the schools have their own workshops both for initiation in the first year and for production. The list of the trades is limitted to the trades of large utility, such as for example: mechanic locksmith, cabinet makers, joiners, electricians, tin workers, tailors, etc.

d) In the technical schools for qualified workers are admitted the school-leavers of middle schools of general education (lyceum) of 17 to 25 years of age. The pupils are trained for various complex trades, which require a higher level of knowledge, thus for instance: electrician for the maintenance of mechanized and automatized aggregates, signalling electro-engineer, centralization block, telephone-telegraph-radio, mechanic for measuring and automation apparatus, specialities for the chemical industry, for geo-physical prospection, thermic treatments, etc. The schooling period, depending on the specific of the trade, is of 1 to 3 years. The admitance to these schools is made according to the results obtained when leaving the middle schools of general culture (lyceum).

10. The experience gained so far proves that the old mentality generated by the economic social conditions inherited from the past regime, in keeping with which it would be a shame for a graduate of a secondary school to become a worker, gradually disappeared; thus, a new mentality took shape, generated by the new economic social conditions, in which work in enterprises is considered work of honour. The fact that modern technique plays an ever bigger role in all the economic branches and requires workers with a high level of general knowledge, has stimulated the development of the new mentality.

11.a) The ever bigger necessities of cadres with high qualification have led to the fact that a number of enterprises promoted the graduates of these schools, after a relatively short length of service, as technicians.

b) Great attention is being attached to the analysis of this experience in our country, and it seems that the conclusion will be reached that in the future, the workers of high qualification and technicians should originate from among the graduates of the secondary schools of general culture (lyceum) after having acquired qualification in production as workers in various complex trades, and also acquired theoretical knowledge by evening and non-attendance courses.

The qualification of workers through practice at the place of work and short courses

12. The training of workers for more simple trades which do not require complicated theoretical and practical knowledge, is achieved through a 2 - 3 months practice at the place of work. The courses of knowledge necessary for the practicing of the trade are delivered by the technicians and qualified workers of the respective enterprises, as part of their job. After learning the trade, the workers are employed on the basis of a practical and theoretical test before the wage tariff commissions in enterprises.

13. With a view to training the workers for more complex trades, training courses are organized, as well as, courses, for raising the qualification, courses of specialization for the workers. Such courses can last from 3 to 12 months and could be organized in such a way so that the workers should not interrupt production (courses with participation in production), or outside production (courseswithout participation in production).

14. At the training courses, the workers receive theoretical and practical knowledge which enable them to carry out operations of a certain level of complexity.

15. a)When the level of complexity of the trade is lower, a worker, can appropriate the necessary theoretical and practical knowledge for the respective trade as a whole, during the several months of the course. In the case of more complex trades, the training by short courses can be achieved in several stages. In the first stage, the worker qualifies for the carrying out of operations up to a certain stage, corresponding to a part or subdivision of the trade, and in the next stages he completes his training tending towards the superior level of the complex trade. The courses of these stage, are called courses for raising the qualification.

b) There are cases when courses of qualification are organize only for workers qualified in certain trades, for instance: in the mining industry pyrotechnists are trained only from among the qualified miners.

c) Both the above mentioned courses for the raising of qualification, and those of qualification on the basis of another trade aim at raising the qualification of the workers, with the difference that the latter are based not on a sub-division of the trade in which they raise their qualification, but on another trade.

16. For the trades which have a higher level of complexity, or require also a long experience, courses for the specialization of workers are organized (e.g.: various categories of setters of equipment, workers in tool work-shops-moulders,etc.

Organization of vocational schools

17.a) The vocations schools for apprentices and the technical schools for qualified workers are organized within the big industrial enterprises, with a high level of technicity; in agriculture, in machine and tractor stations, state farms, rapair workshops for agricultural equipment; in constructions, under the building. This method of organization ensures the direct link of the process of training with the practice of production.

b) The enterprises which run schools ensure the adequate conditions for the proper unfolding of the process of education.

18.a) The establishing of the numbers of workers being trained through the system of vocational training in our country, takes into account the current and future necessities of the enterprises in relation to the development of the existing production branches, their retooling, the increase in the number of enterprises, etc. in keeping with the previsions of the state plan.

b) Over 370,000 school leavers were given to the national economy by vocational education in the period 1949 - 1961. Approximately 60 per cent of them were trained for industry, 47 per cent of whom for the metallurgical and machine-building industries.

c) In the school year 1961 - 1962 the number of pupils in the vocational schools for apprentices and technical schools for workers amounted to 152,000. Compared with the school-year 1938 - 1939 the number of pupils has increased nearly 4 times.

d) The short courses for qualification, for the raising of qualification and for the specialization of workers were finished by 97,500 workers in 1961.

The content of education

19.a) In training qualified workers, of special importance is the ensu-

rance of a system of knowledge, abilities and skill which the pupils and workers acquire in the process of education.

b) The above mentioned system of vocational training and apprenticeship permits the full use of the rich experience of foremen, engineers and technicians in production who deal with the theoretical and practical training of pupils, as well as with the latest achievements of science and technique applied in enterprises.

20.a) Among the basic principles which are taken into account when working out the curricula and syllabus for these forms of training we mention:

b) the indisoluble link of education with the direct practice in production;

c) the principle of the logical link and succession of the subjects and of the observance of the continuity of the process of acquiring the knowledge, abilities and skill;

d) the principle of the accessibility of education;

e) the specific character of each trade, according to which the subjects, the time envisaged for teaching them, the succession of the years of study reflect the content and peculiarities of the respective trade

21.a) The instructive-educational activity in this system of vocational training and apprenticeship comprises:

b) practical training in school workshops and in production;

c) courses for theoretical training.

The curricula of the vocational schools for apprentices and of the schools for learning various trades

22.a) The subjects are divided into 2 groups: subjects of general training (mathematics, Rumanian language, physics, elements of political economy, etc. which aim at widening the horizon of general culture of the pupils and at developing with them a scientific outlook about the world) and subjects of general technical training and of speciality which differ from one trade to another. Generally, they are the following: the technology of the trade, the technology of materials, technical mechanics, mechanical drawing, the organization and planning of production, labour protection.

b) When required by the respective trade, the curricula also provides for other subjects such as : art and ornamental drawing (carpenter of furniture and technical articles), food chemistry, microbiology (laboratory assistant in the food industry), science of commodities (shop assistants) etc.

c) For the trades with a schooling period of two years, the subjects of general culture represent 43 per cent of the total number of classes of theoretical education, and the subjects of general technical training and of speciality 57 per cent.

d) For the trades of a schooling period of three years, the subjects of general training represent 34 per cent of the total number of classes of theoretical education, and the subjects of general technical training and of speciality 66 per cent.

e) Out of the total number of classes of general technical training and of speciality, over 30 per cent is affected to the technology of the trade as this is the basic object of study.

23. In addition to the theoretical subjects, the curricula provide for the first year of school, the practical training in the workshop of the school and for the rest of years, the practical training in production. As we have already showed, the pupils of the vocational schools for apprentices make practical training in enterprises, and the pupils of the schools for learning various trades make it in the production workshops of the schools.

24. The curricula ensure a harmonious development of the pupils from the physical, aesthetic and moral point of view, providing for hours of: physical education and sports, literary circle in the 3rd year and artistic ensemble .

25. Generally, education in vocational schools for apprentices and in the schools for learning various trades is organized on whole days of practical training and whole days of theoretical instruction alternating with those of practical training.

26.a) At the end of the schooling period, the pupils have to take a final examination which consists of:

b) a practical test (eliminatory) for obtaining the certificate of qualified worker.

c) the final examination for obtaining the diploma which is generally by taken in the following subjects:

i) the technology of the trade - written and oral;

ii) the organization and planning of production - oral.

The curricula of the technical schools for qualified workers

27. Considering the fact that the technical schools for qualified workers receive school-leavers of 12-year schools of general culture, having sufficient knowledge of general culture for learning the respective trade, the curriculum lays special stress on practical training. For example: the qualification of operator, of geo-physical, prospections, requires two years and the curricula provide for 3,132 hours, out of which 2,063 hours for laboratory work and practice in production (65.9 per cent) and the rest of 1,069 hours for subjects of general culture and of speciality. When qualifying for the trade of electrician for radio and television sets which requires 3 years, these proportions are of 68 per cent, 32 per cent, respectively.

28. The curricula for certain specialities, in keeping with the peculiarties and specific of the respective production sector provide for a general course of " elements of mechanization and automation of the production processes ". In order that this course be correspondingly appropriated by the pupils, the latter also receive knowlwdge of electro-technique and technical measurements.

The curricula for the training courses, as well as of the courses for raising the qualification , and courses of specialization for the workers

29. The curricula and syllabus for the training courses, as well as of the courses for raising the qualification and courses of specialization for the workers are proposed by the enterprises in which they are organized, within the limit of duration and of the number of hours provided for in the list of trades. The curricula are approved by the ministeries and central bodies which coordinate the activity of the respective enterprises. With a view to a better coordination of these curricula, the Ministry of Education deals with the coordination of the list and of the curricula for the short courses.

30. Each curriculum comprises the following elements: the duration of courses in keeping with the specific of trades, subjects to be taught (Rumanian language, mathematics, technology, organization of production, etc) as well as the number of classes for each of them.

31. On the basis of the curricula, syllabus are drawn up which show what theoretical knowledge and practical skill must be acquired by the pupils, so thet they could have a general level of professional knowledge.

32.a) Textbooks, guides and other demonstrative didactic materials are put at the disposal of the workers for the subjects of speciality.

b) Special stress is laid in the respective textbooks on the introduction of problems of new technique, the description of modern equipment of high profitableness, the advanced methods of work , and saving of materials.

The practical training of pupils in vocational schools for apprentices, schools for learning various trades, technical schools for qualified workers, and for workers who are trained in enterprises

33.a) Practical training plays a very important role in the system of vocational education of qualified workers, because in this way the pupils and workers develop their skill, by applying the knowledge acquired at the theoretical courses.

b) Practical training covers over a half of the schooling period, varying with vocational schools and schools for learning various trades between 55 per cent and 64 per cent, and with technical schools from 62 per cent and 68 per cent.

c) Taking into account the variety and complexity of the trades as well as the process of appropriation, the practical training takes place in two distinct stages which determine the professional qualification of the future skilled worker. Thus, in the first stage of schooling, namely in the first year, the pupils do practice work in school workshops, and in the second and third years they continue it directly in the production process in enterprises.

d) For the trades with the schcoling period of two years, a third of the whole number of classes of practical training envisaged in the curriculum, is deveted to practical training in school workshops, and two thirds to practical training in production; for the trades with a schooling period of three years, the fourth of the classes is represented by practice in school workshops and 75 per cent, practice in production.

e) In school workshops, the pupils are getting professional skill and become familiar with norms of turning out products, and norms of work.

i) The workshops are organized in such a way as to ensure the places of work necessary for each pupil and are endowed with the necessary modern equipment, in keeping with the new methods of work introduced in enterprises.

ii) In school workshops the pupils are grouped in classes or brigades of 10 to 15 pupils and work under the guidance of instructor foremen who teach them the trade according to didactic principles, from the most simple handling and movements, to complex operations.

iii) Practical activity unfolds on the basis of a syllabus, which is syncronized with the syllabus of the theoretical course of the trade's technology.

f) After doing practice work in school workshops, the pupils ciment their practical training on building-sites, in factories and works, where they actually operate the machines, individually or in brigades, under the supervision of the best foremen and workers in the respective sections.

g) The practical instruction of the workers who are trained in enterprises by short courses is organized in a different way for those who train with participation in production, and those who train without participation in production. The workers of the first category are guided all through the programme of work by front-rank workers or by foremen who have the task to instruct them. The workers of the second category do practice work only in the periods envisaged in the curriculum, also under the supervision of front-rank workers or instructor foremen.

Recruiting and employment of professors and instructors

34. The recruiting and employment of professors and instructor-foremen in vocational and technical education is done in keeping with their professional training, their length of service in the field of education and in the respective speciality, their pedagogical skill and experience gained in the process of production.

35. The lecturers in the subjects of speciality (technology, labour protection, the study of raw materials, mechanics and resistence of materials, organization and planning of production, elements of mechanization and automation), as well as the classes of practical training are entrusted to engineers, as well as to some of the best technicians, foremen and front-rank workers from production. Being interested in securing an adequate training of the pupils, the productive enterprises send the most competent specialists in production, as professors and instructors. Particular attention is attached to training these cadres in the methodical and didactic field, so that they could obtain good results in their work.

The material conditions ensured to pupils and workers during their professional training

36.a) The pupils of the vocational schools for apprentices are ensured by the state free upkeep which consists of bed and board, clothes and working equipment, handbooks and school essentials. In keeping with the work done by pupils during their practice of production in enterprises, they are also granted a certain quota in cash for small expenses.

b) Apart from the gratuitousness of education, the pupils of the schools for learning various trades, are granted a number of advantages as

regards their access to hostels and canteens.

c) All the pupils of the technical schools for skilled workers are granted state scholarships with which they can secure their boarding and meals at school canteens.

d) The workers who train with participation in production by instruction at the place of work or by short courses, receive the wages corresponding to their work in production. Those who train by courses without participation in production, receive an indemnity equal to the medium salary achieved in the last three months at the place of work.

i) Apart from the wages, they receive handbooks, guides and school essentials free of charge, and in case they have to go to another locality for following the courses, the state ensured them the transport and boarding free of charge.

37.a) After finishing the vocational and technical schools, the young qualified workers are ensured places of work in production, in the enterprises for which they were trained.

b) The leavers of the schools for learning various trades are also ensured places in production, in local industrial and building enterprises, in commerce and in the network of public catering.

c) While working in production, the leavers of the vocational schools for apprentices, of the schools for various trades and of the technical schools for qualified workers, have the possibility to continue their secondary and superior studies, at evening or non-attendance courses.

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